Bonneville Power AdministrationPower Administration
Fish and Wildlife Program FY99 Proposal Form

Section 1. General administrative information

Implementation of Willamette Basin Mitigation Program--Wildlife

Bonneville project number, if an ongoing project 9206800

Business name of agency, institution or organization requesting funding
Oregon Department of Fish and Wildlife

Business acronym (if appropriate) ODFW

Proposal contact person or principal investigator:

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Subcontractors. SUBCONTRACTORS AND COOPERATORS

Organization	Mailing Address	City, ST Zip	Contact Name
Friends of Howard Buford County Park	P.O. Box 5266	Eugene, OR 97405	Chris Orsinger
Lane County Parks	3040 N. Delta Hwy	Eugene, OR 97401	Bob Keefer
Oregon State Parks and Recreation	90064 Coburg Rd.	Eugene, OR 97408	Doug Krispin
Willamalane Parks and Recreation District	200 S. Mill St.	Springfield, OR 97477	Greg Hyde
City of Springfield	201 S. 18th	Springfield, OR 97477	Ed Black
Lane County Waste Management	125 E. 8th Ave.	Eugene, OR 97401	Ken Sandusky
Mt. Pisgah Arboretum	33735 Seavey Loop Rd.	Eugene, OR 97405	Alison Voss

Springfield Utility Board	202 S. 18th St.	Springfield, OR 97477	Ken Cerotsky
Oregon Natural Heritage Program	821 SE 14th Ave.	Portland, OR 97214	Jimmy Kagan
The Nature Conservancy	821 SE 14th Ave.	Portland, OR 97214	John Christy
Others	throughout the Willamette basin		TBD during FY 98 Willamette Basin Program activities

NPPC Program Measure Number(s) which this project addresses.
7.1, 7.6.A, 7.6.B, 7.6.C, 7.7, 7.8, 11.3.A, 11.3.D

NMFS Biological Opinion Number(s) which this project addresses.

Other planning document references.

If the project type is "Watershed" (see Section 2), reference any demonstrable support from affected agencies, tribes, local watershed groups, and public and/or private landowners, and cite available documentation.

See references and related projects sections.

Subbasin.

Willamette River Subbasin and Lower Columbia Subbasin-all tributary basins in Oregon

Short description.

Mitigate for hydro-electric facilities through enhancement, easement development, acquisition, restoration, and management of wetlands and other target habitat types and their respective species in the Willamette basin in Oregon.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
+	Anadromous fish		Construction	X	Watershed
+	Resident fish	+	O & M		Biodiversity/genetics
X	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research	+	Ecosystems
	Climate	+	Monitoring/eval.		Flow/survival

____	Other	+	Resource mgmt	____	Fish disease
		+	Planning/admin.	____	Supplementation
		____	Enforcement	+	Wildlife habitat en-
		X	Acquisitions		hancement/restoration

Other keywords.

Restoration Ecology, Landscape Ecology, Conservation Biology, Habitat Evaluation Procedures, GIS,

.

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship
9705900	Securing Wildlife Mitigation Sites-Oregon	Umbrella project, Provides project location, priority, and data tracking information (Planning/Implementation)
95-65	Assessing Oregon Trust Agreement Using GAP Analysis	Tool used to analyze and rank potential projects in the basin for implementation(Planning)
92-84	Oregon Trust Agreement Planning Project	Methods developed for assembling trust agreement and list of potential projects(Planning)
9107800	Burlington Bottoms Mitigation Site	First wildlife mitigation project implemented in the Willamette basin Continues as an enhancement and O&M project(Implementation)
9607000	McKenzie River Focus Watershed Coordination	Provides coordination, resource assessment and documentation, and prioritization of enhancement, easement and acquisition projects in the McKenzie basin(Planning/Implementation)
9205900	Amazon Basin/Eugene Wetlands	Second wildlife mitigation project implemented in the Willamette basin Continues as an enhancement and O&M project(Implementation)
9405300	Bull Trout Assessment-Willamette/McKenzie	Baseline data on keystone species which will be applied to enhancement and acquisition objectives in McKenzie and upper Middle Fork Willamette systems

		(Research/planning)

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2, 3	Objective	Task a,b,c	Task
1	Continue implementation of recommendations of HEP, Alternatives, and Hydrologic teams from Phases II & III	a	Continue implementation of management plan prescriptions developed for sites within the Confluence area
		b	Purchase materials such as plantings, seeds, equipment, water control devices, hardware, etc.
		c	Implement willing seller acquisitions in Confluence area
		sub-task ii	Develop management plans and prescriptions for new project areas
		d	Consult, inform, cooperate, coordinate with partners & interested parties
2	Begin implementation of the enhancement of public lands and acquisition of key private lands in the focus areas selected during Phase III	a	Work with Oregon State Parks and Recreation, Division of State Lands, Bureau of Land Management, Forest Service, Army Corps of Engineers, and other lands in the basin to develop management prescriptions which compliment BPA mitigation activities
		b	Develop additional MOA/MOU with BPA and other government agencies, as needed
		c	Acquire, enhance, develop easements and management plans on lands necessary to achieve mitigation goals in the basin
		d	Enhance public and private lands through flood plain restoration and terrestrial habitat improvements
		e	Continue developing and assembling data and other

			information useful to mitigation and other habitat improvement efforts
3	Conduct HEP analysis activities	a	Perform HEP analyses to determine baseline values for new project areas
		b	Develop desired future condition estimates and corresponding HEP values
		c	Develop site potential indices based on geomorphologic features with Wildlife Working Group members and other experts
		d	Conduct monitoring and evaluation activities including HEP sampling to be used in adaptive management strategies
4	Prepare and submit reports	a	Document baseline and expected future habitat values
		b	Develop progress reports and final report for BPA
		c	Document significant or new information useful to other natural resource organizations

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	5/96	9/99	30
2	10/98	9/03	40
3	3/97	9/03	25
4	10/98	9/99	5

Schedule constraints.

Delayed and inadequate funding to implement projects within the scheduled time periods
Severe weather conditions which could delay field activities
Unexpected difficulties with the negotiation efforts with landowners

Completion date.
Once the mitigation losses associated with the hydro-electric facilities have been fully mitigated for through the acquisition and enhancement of habitats the program will only require O&M funds to ensure habitat values as long as the hydro projects are in operation
FWP 11.3C.1

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel	part-time and full time	100,000
Fringe benefits	standard rate	38,000
Supplies, materials, non-expendable property	includes enhancement materials and costs	60,000
Operations & maintenance		2,000
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		170,000
PIT tags	# of tags:	
Travel		10,000
Indirect costs		20,000
Subcontracts		100,000
Other		
TOTAL		500,000

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	200,000	200,000	3,000,000	500,000
O&M as % of total	3%	5%	1%	4%

Section 6. Abstract

The goal of the Willamette Basin Mitigation Program is to cooperatively develop and implement measures to mitigate for wildlife habitat losses associated with the construction of the Willamette basin federally licensed hydro-electric dams and facilities. While implementing easements, acquisitions, management plans and enhancement activities designed to achieve the Council's mitigation target species and habitat goals maintain and improve water quality and quantity, habitat connectivity, integrity and functionality, biodiversity and overall ecosystem health.

Overall Objectives: Through the use of Restorative Ecology, Conservation Biology, Landscape Ecology, and passive restoration techniques implement approximately 5-10 mitigation projects in the Willamette basin with the expected minimum gain of 500 - 1500 Habitat Units (HUS) each year. These habitat "gains" will be applied to each of the hydro-electric facilities based upon habitat type and location.

Calculate baseline, actual, and future HUs through the use of HEP field sampling, GIS data collection and analysis, and other Monitoring and Evaluation techniques accepted by the Council, BPA, and CBFWA's Wildlife Working Group.

Provide information, findings, and new techniques about the project through multiple means including reports, presentations, digital data and maps, papers, and "over-the-Internet".

Section 7. Project description

a. Technical and/or scientific background.

The Oregon Department of Fish and Wildlife (ODFW) has been conducting wildlife mitigation projects and activities in the Willamette Basin, since 1991, under the auspices of the NW Power Planning Council's (Council) Fish and Wildlife Program funded by the Bonneville Power Administration. Two ODFW projects, of particular interest, have been funded through the wildlife portion of the Council program for several years. These are Burlington Bottoms and the Willamette Basin Mitigation Project.

Past phases of both projects have focused on the preliminary study and planning aspects which are necessary prior to project implementation. Burlington Bottoms is currently in the implementation phase including enhancement and some maintenance work. Phase III of the Willamette Basin Project will take the project from the current planning phase to the implementation phase in the local Confluence area. Additionally, new focus areas will be selected in the valley based on their mitigative potential, restoration and enhancement opportunities, exiting habitat conditions, and the role each area may play within the Willamette basin strategy. Some planning and implementation activities will occur within the focus areas. New partnerships will be developed while existing partnerships will be expanded with organizations and groups that have management interests or mandates within the local areas.

The development of a Willamette basin-wide mitigation strategy will occur with a number of stakeholders and decision making organizations through workshops and joint meetings. The likely resulting strategy will incorporate as many resource-based elements as feasible such as; mitigation values for fish and other wildlife, water quality and quantity, restoration or enhancement opportunity, vegetative/habitat components, recreation, education, and overall livability. The strategy will include the identification of potential mitigation focus areas and selection of a few "best" focus areas for implementation. The "best" will be selected by jointly formulated criteria applied to the potential focus areas. A three to five year implementation time line will be generated for the basin.

Further, the Willamette basin site specific projects were solicited, compiled, and analyzed during two previous BPA projects described below. The Bonneville Power Administration (BPA) GAP Project was conducted by the Oregon Department of Fish and Wildlife (ODFW) Wildlife Diversity Program. This project drew from the efforts of the

Oregon Trust Agreement Planning Project (OTAP). Both projects were funded by BPA through the Northwest Power Planning Council (NWPPC) fish and wildlife mitigation program.

The BPA GAP project developed a series of databases and Geographic Information System (GIS) data layers which may be used for potential mitigation projects evaluation by the Oregon Wildlife Coalition (OWC) members. Combined with the findings of the OTAP a suitability analysis determined which projects were suitable for BPA mitigation and which remaining projects could be implemented in the near future. Multiple queries of landscape level GIS data were conducted as part of the GAP analysis portion of the project. The results characterize the potential contribution to the mitigation target species and habitats. In addition, the role a project might play in conservation planning, within the range of habitat types and conditions state-wide, was determined.

Some methods and data were borrowed from existing conservation mapping and planning efforts while others were created. Results which included ordering of projects were based on the GIS queries. Digital information is also available. Future work conducted by the OWC will involve the refinement of existing information and the generation of new projects based on criteria and methodology developed during the GAP project The sites in the Willamette basin which are ranked highest are currently on-going implementation projects funded by BPA in FY 98. This project proposal would continue that work in FY 99..

b. Proposal objectives.

Objectives- 1 Continue implementation of recommendations of HEP, Alternatives, and Hydrologic teams from Phases II & III

Outcome - Approximately 300 - 500 HUs gained in the Confluence area annually

2 Begin implementation of the enhancement of public lands and acquisition of key private lands in the focus areas selected during Phase III

Outcome - Approximately 1000 - 2000 HUs gained in the basin annually

3 Conduct HEP analysis activities

Outcome - Estimates, sampling, and monitoring of habitat conditions at project areas to be applied to the losses from hydro facilities

4 Prepare and submit reports

Outcome - Documentation of activities and methodologies

c. Rationale and significance to Regional Programs.

The Willamette Basin Mitigation Project is currently focusing on the lands associated with the coast and middle forks of the Willamette River. Fiscal year 1997 funds are supporting the initial stages of implementing the preferred alternatives selected following the Habitat

Evaluation Procedures (HEP) analyses during the previous phase of the project. **Project lands will be credited to the habitat losses associated with the Willamette Basin hydro-electric facilities. There are over 94,000 Habitat Units (HU) identified through the Loss Assessment documents for which mitigation must take place.** The HEP Analysis and Alternatives Plan are being used as a guide for developing and implementing a site management plan. The plan will be followed and a number of implementation and enhancement tasks will be conducted within the study area if the proposed funds identified in this proposal are approved. The proposed funds are necessary to follow-up the previous planning phases and implement distinct mitigation projects which allow credits to be given to the BPA under the Power Planning Council program.

This project is consistent with all known local, state, federal, and tribal laws. The NWPPC has approved similar projects in Oregon and other states. BPA has successfully implemented several projects in Oregon in the last seven years. The project is covered under the BPA Wildlife and Watershed Programmatic EIS documents (BPA 1997b, BPA 1997c, BPA 1997a). The project is consistent with several areas of the Council's Fish and Wildlife Program. Specifically, it is consistent with Section 7.6 of the FWP which calls for watershed based habitat restoration focusing on protecting of wild and natural populations. It is also consistent with Section 11 of the Program which identifies wildlife resource needs.

d. Project history

The Oregon Department of Fish and Wildlife (ODFW) has been conducting wildlife mitigation projects and activities in the Willamette Basin under the auspices of the NW Power Planning Council's (Council) Fish and Wildlife Program funded by the Bonneville Power Administration since 1991. Past and current phases of the Willamette Basin project include the *Willamette Basin Western Pond Turtle Research* 92-068 from 1991-1995, *Willamette Basin Mitigation* 9206800 Phase I, II, and III in 1996, 1997, and 1998, respectively.

Prior projects have focused on the preliminary study and planning aspects in order to achieve successful project implementation. The *Willamette Basin Western Pond Turtle Research* 92-068 project was initiated in the confluence of the Middle Fork Willamette River and Coast Fork Willamette River project area (Confluence). Initial work included identification of population estimates, distribution, age structure, and important aquatic habitat areas. In 1993 and 1994 the inventory and mapping of these parameters was extended to potential mitigation sites, with focus on western pond turtle, throughout the Willamette basin. The resultant reports included most notably; *The Western Pond Turtle: Habitat and History*, Dr. Dan Holland, U.S. Department of Interior, August 1994.. These two documents represented the first comprehensive evaluation of turtles and their habitat in the basin and a management strategy for protecting wetlands through mitigation activities, respectively.

Intensive trapping, marking, and monitoring of western pond turtles was conducted between spring 1995 to spring 1997 to assess the population distribution, size, habitat use, nesting habitat and overwintering habitat within the Confluence study area. A master's thesis was completed at the University of Oregon and a paper was written by another student at Antioch University of New Hampshire (Cowie 1997). A geographic information system (GIS) was developed for the project area and it includes various geographic, administrative, physical, and biological data sets which have been and continue to be used for project planning and implementation. An hydrologic study of the area using a graduate student through Oregon State University Geosciences Department was completed for the entire Confluence project area (Rodgers 1997). A report documenting the HEP activities and results for the entire project area was generated. A report outlining the recommendations of the HEP Team and Alternatives Team for habitat enhancement and acquisition was written ODFW 1997b, ODFW 1997c). A master's thesis describing the history of the Confluence area was completed at the University of Oregon.

Phase III of the Willamette Basin Project is currently moving the project from the planning phases of I and II to the implementation phase in the Confluence area. Additionally, new focus areas are being selected in the valley based on their mitigative potential, restoration and enhancement opportunities, exiting habitat conditions, and the role each area may play within the Willamette basin strategy. Some planning and implementation activities will occur within the focus areas in 1998. New partnerships are being developed while existing partnerships will be expanded with organizations and groups that have management interests or mandates within the local focus areas. Expected results include a master's thesis from Oregon State University for developing a prototype desktop GIS used for watershed planning, restoration, and monitoring. Multiple hydrologic reports will be developed for specific project areas. The presettlement and current vegetation and habitat maps for the Willamette Valley will be completed and available in GIS format. Multiple focus areas will be selected in the basin and enhancement and acquisition projects will accomplish mitigation for approximately 5-10% of the habitat losses identified.

Approximately $626,000 have been invested in the project to date.

e. Methods.

In general, the methods used to date and those to be used, with this and future years of the project, incorporate the methods practiced as the newest forms of wildlife sciences such as Restorative Ecology, Conservation Biology, Landscape Ecology, and multi-scale planning and modeling using GIS data. Often these methods prefer mimicry, replication, and massage of natural features and processes rather than the traditional creation of habitat conditions irrespective of natural tendencies of the land (Forman and Gordon 1986, Harris 1984). The first step towards implementing habitat improvement activities using the techniques mentioned involves a thoughtful inventory of existing information (Scott 1994). Compilation of this information in a media which is flexible and similar to all data involves the use of a GIS. From this point desired future conditions and possibilities can

be analyzed and portrayed (Machlis et. al. 1994, Scott et. al. 1994). Upon selection of a scenario for achieving the desired condition the project proponents will use a wait-and-see approach for a growing season or two. This allows for not only a potential reduction of cost but also the use of adaptive management techniques from the beginning. When factors which degrade habitat conditions are halted or removed from a system there is often a corresponding recovery which may increase habitat values (HUs) without manipulation. These are the fundamentals of passive restoration which the project proponents have chosen as a preferred method (Kauffman et.al. 1997).

The development of a Willamette basin-wide mitigation strategy through focus area selection and evaluation is occurring with a number of stakeholders and decision making organizations through workshops and joint meetings during Phase III. The resulting strategy will incorporate as many resource-based elements as feasible such as; mitigation values for fish and other wildlife, water quality and quantity, restoration or enhancement opportunity, vegetative/habitat components, recreation, education, and overall livability. The strategy will include the identification of potential mitigation focus areas and selection of a few "best" focus areas for implementation. The "best" will be selected by jointly formulated criteria applied to the potential focus areas.

From the work currently on-going in FY 1998, described above, a three to five year implementation time line will be generated for the basin. Work in the Confluence area during this time will include the continuation of the implementation of management plan prescriptions developed for sites within the Confluence area. Materials such as plantings, seeds, equipment, water control devices, hardware, etc. will be purchased. Continued implement of willing seller acquisitions in Confluence area will continue as it is a proven method of providing habitat units where cooperative agreements or public lands are not possible. Coordination through consultation, information sharing, and cooperation with partners & interested parties will continue to be a fundamental and prevalent aspect of the project.

In focus areas outside of the Confluence area work will be undertaken with Oregon State Parks and Recreation, Division of State Lands, Bureau of Land Management, Forest Service, Army Corps of Engineers, and other lands in the basin to develop management prescriptions which compliment BPA mitigation activities. If necessary to expedite mitigation activities additional MOA/MOU with BPA and other government agencies will be developed. As demonstrated by other state and tribal mitigation programs continued use of acquiring, enhancing, developing easements and management plans on lands will be used to achieve mitigation goals in the basin. Enhancing target habitats for target species will continue to use public and private lands for flood plain restoration and terrestrial habitat improvements. The project will continue developing and assembling data and other information useful to mitigation and other habitat improvement efforts which will be applied in an adaptive management manner to the project. Also, the information which may prove useful to other resource professionals, agencies, and organizations will be presented through papers, presentations, over the Internet, and reports.

HEP analysis activities will be conducted on all project lands to determine the baseline and future habitat values following methods outlined by the NWPPC FWP and USFWS HEP models (NPPC 1994, Interior 1980). Additional data will be collected, compiled, modeled, and analyzed for each project area utilizing multi-scale digital data in a GIS which has been developed during past efforts of the project (ODFW 1997a). The GIS will also be used to enhance the HEP data through the use of digital photography, vegetation, species, and geomorphological data. Assistance to the CBFWA WWG will be provided when developing site potential and other modeling techniques for use throughout the Columbia basin.

f. Facilities and equipment.

No new facilities are anticipated to be necessary at this time. Existing facilities of the project implementers and cooperators will be used to minimize cost and increase efficiency. Existing equipment will also be used to the maximum extent practical. This includes vehicles, farm equipment, and computers. There will likely be a need to upgrade these items as they wear out or become obsolete. Upgrades will include software and hardware for computers, new vehicles when necessary, and specialized equipment which would increase the efficiency of project implementation. At some point facilities in less accessible locals may be important. Additionally, a computer workstation may be needed for assembly, analysis, and distribution of project data and information.

g. References.

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Section 8. Relationships to other projects

The Oregon Trust Agreement Planning Project 92-84, Assessing Oregon Trust Agreement Using GAP Analysis 95-65, and Securing Wildlife Mitigation Sites-Oregon 9705900 are the pre-planning and planning projects upon which the identification and selection of mitigation projects in the Willamette basin and other Columbia tributary basin are based. Currently there are two project sites in the FY 99 proposal for Securing Wildlife Mitigation Sites-Oregon which will be coordinated through this proposal.

Burlington Bottoms 9107800 is a project managed by ODFW in the Willamette basin. It was the first site specific project implemented in the state of Oregon. This project is currently in the implementation phase. The enhancement work being undertaken on the

site provides for an experimental lab, of sorts, on which multiple techniques are used to further the understanding of Willamette and lower Columbia wetland systems. The methods found to be most effective will be used on similar sites in the focus areas throughout the basin.

Amazon Basin/Eugene Wetlands-Phase II 9205900 is the second mitigation project to be implemented in the Willamette basin. It is administered by The Nature Conservancy (TNC). The Willamette project has coordinated with TNC and will continue to do so. Specific measures for complimenting each project will be developed during FY 98. Sharing of knowledge and techniques will prove invaluable when implementing site specific projects throughout the basin.

McKenzie River Focus Watershed Coordination 9607000 is an on-going project in the basin which has and will continue to provide focus and coordination for the fish and wildlife mitigation activities occuring in this most important watershed of the Willamette. Coordination with this project, to date, has provided a prioritization of potential anhancement and acquisition sites in the watershed. Two of the most highly ranked sites are included in this project proposal and the Securing Wildlife Mitigation Sites-Oregon project.

Bull Trout Assessment-Willamette/McKenzie 9405300 is an on-going Resident Fish project which will continue to provide valuable information to the mitigation efforts in the Mckenzie River in particular. But, the data will be useful in other tributaries of the Willamette where bull trout occurred historical and continue to do so. Prescriptions developed may be tested at various mitigation sites throughout the basin.

Section 9. Key personnel

Project Leader:Gregory B. Sieglitz

Education

Oregon State University, Corvallis, Oregon.
Bachelor of Science in Wildlife Science, 1990.

Oregon State University, Corvallis, Oregon.
One year of Master of Science Program.
Department of Geosciences, 1994-1995.

Professional Experience

10/95 to present **Oregon Department of Fish and Wildlife**
Corvallis, Oregon.
Wildlife Diversity Program-Assistant Staff Wildlife Biologist

Project leader for two Bonneville Power Administration Mitigation Projects:
-Willamette Basin Mitigation Program.
-Assessing Oregon Trust Agreement Planning Project Using GAP Analysis.

Project leader for statewide Spotted Owl, Marbled Murrelet and Western Pond Turtle databases.

Performed duties of agency liason and spokesperson representing ODFW at regional Wildlife Working Group, Columbia Basin Fish and Wildlife Authority, Oregon Wildlife Coalition, and other meetings.

Facilitator of Oregon Wildlife Coalition, BPA GAP Analysis, and Willamette Valley Mitigation meetings.

Coordinated Habitat Evaluation Procedures and Alternatives Team processes.

Authored reports, managed budgets, developed contracts, hired and supervised, and gave presentations.

GIS, GPS, and multiple computer programs for manipulating, analyzing, and portraying data.

Only that experience directly related to the current project is shown. A complete resume is available upon request.

Section 10. Information/technology transfer

A brochure is currently being developed as an interface for private citizens, cooperators, and interested landowners.

At least one workshop will be held to solicit input and provide a forum for coordination between agency and organization personnel involved in habitat restoration and enhancement in the basin. The digitial data and products developed will be available through BPA and by way of Web pages.

The presettlement and current vegetation mapping and other useful data will be available in hard copy and digital form.

Multiple reports and written documents will also be developed and distributed via BPA and the Internet.